DETAILED ACTION

In view of the Appeal Brief filed on 9/16/11, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Heather Calamita/
Supervisory Patent Examiner, Art Unit 1635

The examiner of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Brian Whiteman, Art Unit 1635.

Election/Restrictions

Claims 98-101 are rejoined with the elected species and examined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 63, 64, 65, 66, 67, 78, and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCaffrey et al. (Nature Biotechnology, of record) Ill (US 5,843,770, of record) and Sallberg (US 6,680,059, of record) in further view of Tuschl (The siRNA user guide, pages 1-5, 2001).

McCaffrey et al. teach using siRNA to inhibit hepatitis B virus in cultured cells and mice (page 639). However, McCaffrey et al. do not specifically teach siRNA comprising at least 19 nucleotides of SEQ ID NO: 3 and/or 10.

At the time the invention was made, Ill teaches a method of inhibiting HBV in mice using antisense oligonucleotides SEQ ID NO: 1 (abstract, line 15-25, column 2, and column 11). The oligonucleotide comprises at least 19 contiguous nucleotides of SEQ ID NO: 10. In addition, at the time the invention was made, Sallberg teaches a nucleotide sequence comprising SEQ ID NO: 14 (HBV) that comprises an at least 19 contiguous base pair nucleotide sequence of SEQ ID NO: 3 (Example 4). The nucleotide sequence can be used to stimulate an immune response. One of ordinary skill in the art would have been motivated to inhibit HBV by targeting a region of SEQ ID NO: 14.

However, McCaffrey, Ill, and Sallberg do not specifically teach making and using siRNA comprising 19 nucleotides of SEQ ID NO: 3 and/or 10.

However, at the time the invention was made, one of ordinary skill in the art understood that siRNA was more effective at inhibiting expression of a target gene and more selective. Tuschl teaches guidelines for selection siRNA duplexes from target mRNA sequence and successfully knocking down the target gene. One of ordinary skill

in the art using the guidelines taught by Tuschl would arrive at siRNA comprising at least 19 nucleotides from SEQ ID NO: 3 and 10. In addition, there is a reasonable expectation of success for inhibiting expression of the target gene (page 5 of Tuschl).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of McCaffrey et al., Sallberg, and Ill taken with Tuschl, namely to produce a composition comprising dsRNA having at least 19 nucleotide base pair nucleotide sequence from the group consisting of SEQ ID NO: 3 and/or SEQ ID NO: 10. One of ordinary skill in the art would have been motivated to combine to study the inhibition of HBV in a cell line infected with HBV. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." See ***KSR v. Teleflex***, 550 U.S. 398, 127 S. Ct. 1727 (2007).

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments, see pages, filed 9/16/11, with respect to the rejection(s) of claim(s) 63-67, 78, and 79 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the addition of Tuschl (The siRNA user guide, 2001) to the 103(a) rejection.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 63-67, 78, and 79 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 39-42 of copending Application No. 13/065,601. Although the conflicting claims are not identical, they are not patentably distinct from each other because both set of claims are directed to a method of inhibiting HBC and HCV using double stranded RNA.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant's arguments filed 9/9/10 have been fully considered but they are not persuasive because the incorrect form for terminal disclaimer was used.

Conclusion

The art made of record and not relied upon is considered pertinent to applicant's disclosure. US 7,985,581 claims a construct comprising a sequence that is 100% identical to SEQ ID NO: 21 (See SEQ ID NO: 11).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number 571-272-0764. The examiner can normally be reached on Monday-Thursday from 6:30 to 4:00 (Eastern Standard Time). The examiner can also be reached on alternate Fridays.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Heather Calamita can be reached on 571 272-2876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Brian Whiteman/

Primary Examiner, Art Unit 1635